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TEACHING, LEARNING AND THIRDNESS*

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It is a recognized fact that teaching does not always produce learning and that learning sometimes occurs in situations where there is no teacher or teaching. This state of affairs has prompted some philosophers of education to state that the teacher could not be said to have taught unless the pupil had learned (e.g., Dewey, Kilpatrick). A consequence of this postulated relationship between teaching and learning, however, seems to be that "teaching" and "learning" as terms are either synonyms or related in such a way that the process can only be meaningfully discussed in terms of the product. In the interest of clarity, some analytic philosophers of education (e.g., Smith, Scheffler) have sought to redefine the terms "teaching" and "learning" so as to separate their meanings and to make them more precise. Although clarity might be achieved by increased precision in separating "teaching" from "learning," the problem of the way they are related still remains. Separation of meanings of terms by use of distinctions and definitions does not in any way preclude a logical relation of the terms or an empirical relation of the things (events) to which the terms may be properly applied.

The purposes of this paper are to examine some of the distinctions and relationships between teaching and learning. Particular attention will be given to distinctions between task words and achievement words (e.g., Ryle), between the cognitive and the empirical, and between means and ends. The relations of teaching to learning will be examined in terms of monadic, dyadic, and triadic propositions, and in terms of meanings. The thesis of this paper is that the relation of teaching to learning is triadic, that meaning is logical, empirical, and psychosocial, and that a defensible conception of teaching will be based upon distinctions and definitions consistent with such a relationship and meanings.

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I

Ryle: achievement words and task words

Gilbert Ryle is among those philosophers who focus on language. These philosophers seek to solve, resolve or dissolve philosophical problems by taking a careful look at the language used in stating such problems. Since language may be regarded as an instrument of critical thought, one might improve thought by the careful shaping of the instrument. Such care with respect to instrumentation will not solve everything, of course, but it is a poor workman who blames his tools.

Linguistic philosophers are criticized for making distinctions in language which do not parallel distinctions in the working context. For example, distinctions useful in the language of inquiry may be inappropriate to the language of report writing. Ryle's context for linguistic distinctions concerning 'achievements' is the inquisitive life of human beings – specifically, episodes in that life.

Education and schooling represent a large segment of the episodes in the inquisitive life of human beings. Concern with achievement is a dominant feature of education, unfortunately, perhaps. Therefore the discussion of achievements is not artifically forced into an educational context; clarification of the language we use to refer to achievements could be of widespread value.

Ryle argues that there are certain ways of speaking at the cognitive-logical level of language which do not entail or imply anything definite about certain kinds of experiential-empirical activities. Certain statements are about language that is tautological, analytic.

Logically – at the logical level of language – one cannot prove incorrectly; to prove is analytic with respect to correctness. Likewise one cannot discover erroneously; discovery is analytic with respect to non-error. Thus, if I prove a theorem, it must be correct; had it been incorrect I could not have arrived at a valid proof. Likewise, if I discover my shirt button, I cannot have been in error in discovering it; I cannot both discover it and fail to discover it. Ryle says that epistemologists have been confused when they try to carry these logical tautologies over to the empirical realm.

> Automatically construing these and kindred verbs as standing for special kinds of operations or experiences, some epistemologists have felt themselves

obliged to postulate that people possess certain special inquiry procedures in following which they are subject to no risk of error. They need not, indeed they cannot, execute them carefully, for they provide no scope for care. The logical impossibility of a discovery being fruitless, or of a proof being invalid, has been misconstrued as a quasi-causal impossibility of going astray.[1]

So, Ryle points out, the error of these thinkers lies in supposing that these logical distinctions carry over full force to empirical operations. These are not action verbs; they do not consist in an actual experience; they are cognitive verbs signifying achievement. They are 'got it' verbs.

Other thinkers have made a different error.

Again automatically construing these achievement verbs as standing for special kinds of operations or experiences, they have asserted that the operations or experiences for which they stand are, after all, not fault-proof. We can know what is not the case, prove things fallaciously, solve problems erroneously and see what is not there to be seen.... Merely saying 'I see a hawk' does not entail that there is a hawk there, though saying truly 'I see a hawk' does entail this.[2]

This second group of thinkers begin with the empirical, not the logical realm. They have not supposed that the logical carries over full force to the empirical; rather, they start with the empirical and find that the logical does not conform to it. In actual experience we find out that we know things which are not the case, see things which are not there to be seen.

Ryle's point is, as he says, a negative one. It is to exhibit why it is wrong, and why it is tempting, to postulate mysterious actions and reactions to correspond with certain familiar biographical episodic words. Ryle's proposal is that we understand certain so-called cognitive verbs to be achievement verbs, not process verbs. If we consider running a race a process, then, Ryle asserts, we should not suppose that the last atomistic instant of the running as the winner crosses the tape is to be looked for as the 'win' part of the process. 'Win' does not stand for a perplexingly undetectable bit of running, or 'unlock' for an unreported bit of key-turning.

There are many episodic verbs which are used to describe items in the inquisitive life of human beings, and the failure to notice that some of these verbs are achievement verbs while others are task verbs has been the source of some gratuitous puzzles and, accordingly, of some mystery-mongering theories. Special cognitive acts and operations have been postulated to

[1]Gilbert Ryle, THE CONCEPT OF MIND (London: Hutchinson House, 1952), p. 152.
[2]IBID., p. 153.

answer to such verbs as 'see', 'hear', 'taste', 'deduce' and 'recall' in the way in which familiar acts and operations do answer to such verbs as 'kick', 'run', 'look', 'listen', 'wrangle' and 'tell'; as if to describe a person as looking and seeing were like describing him as walking and humming instead of being like describing him as angling and catching, or searching and finding. But perception verbs cannot, like search verbs, be qualified by such adverbs as 'successfully', 'in vain', 'methodically', 'inefficiently', 'laboriously', 'lazily', 'rapidly', 'carefully', 'reluctantly', 'zealously', 'obediently', 'deliberately', or 'confidently'. They do not stand for performances, or ways of being occupied; *a fortiori* they do not stand for secret performances, or ways or being privily occupied. To put it crudely, they belong not to the vocabulary of the player, but to the vocabulary of the referee. They are not tryings, but things got by trying or luck.[3]

The difference between these two verbs – task and achievement verbs – in terms of their logical force is "that in applying an achievement verb we are asserting that some state of affairs obtains over that which consists in the performance, if any, of the subservient task activity."[4] To search for a thimble will not be crowned with achievement unless there is a thimble there to be found. Something over and above the effort of the searcher searching must be present. It is not doing two things to search and find; it is doing one thing with a certain outcome.

Achievements and failures are not occurrences to be found in immediate awareness. They are not acts, exertions, operations or performances – but they signify activities which have certain results.

Perception verbs cannot, like search verbs, be qualified by such adverbs are 'successfully' or 'deliberately.' They are not tryings, but things got by trying (or by luck). In simple perception I hear the tower bells. I may not be trying to hear them at all; I may be trying to read or write or teach. Thus, I am not listening for the bells – for that would be trying, a trying crowned with success if I truly hear them. Perception is just thrust upon one; but trying is a way of being occupied, a performance which may have a successful outcome. I deliberately listen, and I hear. My hearing is put under control when I listen: the outcome is a controlled perception.

The language of doing is different from the language of recognition of the upshot of the process. To recognize a racer as the winner is the vocabulary of the referee, not the runner. Some cognitive judgment has been made denoting achievement.

[3]IBID., pp. 151-152.
[4]IBID., p. 150.

This cognitive judgment takes into account existential factors over and above the doing factor. The effort of the racer is not sufficient to denote achievement: he must be seen to be at the tape first; the other racers must not be able successfully to lodge a foul claim against him.

Immediate awareness is one class or type of activity. But achievements are not the same type of occurrences; they are recognitions of the fact that certain episodic performances have come to a close. Thus, to me, they are *judged endings in experience.*

Ryle makes a positive claim: that cognitive verbs should be assimilated to the general class of achievement verbs. If one were to quarrel with Ryle, one would question this assimilation of the cognitive verbs to the achievement verbs and would perhaps try to find some cognitive verbs which are inappropriately assimilated to achievement verbs. This tack would turn toward linguistics, not logic. The philosophical issue thus is not the central issue in this passage. But Ryle writes as if his basic distinction has import for the philosophical issue. The philosophical issue concerns the relation between the cognitive and the experiential.

I look for the shirt button, and I see it. I listen for the bells, and I hear them. The seeing and the hearing are marks of the end of the process; they are not ways of being occupied, but record what was achieved by trying. Seeing and hearing are perception verbs and cognitive verbs. They do not represent activities in the same way that look and listen refer to activities, operations, performances, and acts.

But notice how the achievement must be related to the process. The outcome of listening is to hear. It is just one piece of doing, according to Ryle. But, don't we hear without trying to listen? I can hear without trying. If so, then hearing is not always an upshot of a process of listening. If to hear the tower bells is not a product of listening, then what kind of activity is it? Is it direct perception? It must be more than direct perception because we do discriminate hearing from nonhearing. And this discrimination is a judgment of some sort.

How is it possible to be aware of process? Can we, as a matter of fact, perceive process directly? Ryle states that there is a mystery surrounding cognitive activities. (Note that Ryle uses this expression of cognitive *activities,* yet he is trying to point out that it is an activity which is not a way of being occupied, a non-active activity!) I can see a hawk, but I cannot

at the same time catch myself seeing a hawk. The hawk is there, but my seeing is not to be observed.

Dewey's assertion of the simple and unqualified "hadness" of immediate experience is relevant here. There is, for Dewey, experience which is immediate – had – and experience which is mediate – discourse about, pointing to, reference from immediate
92 experience. Cognitive discourse is mediate, not immediate. One must posit a "hadness" of experience as a prior condition for the emergence of discourse about it. This basic distinction Dewey makes would seem to elucidate the mystery-mongering puzzles of "how-can-I-catch-myself-perceiving-when-catching-myself-perceiving-is-a-bit-of-perceiving-itself." Direct experience of process is had – undergone and done. But it is not cognitively known as such.

We seem to have cognitive verbs for process – for these are legitimate judgments and discriminations – and cognitive verbs for outcomes. Can 'to hear' be both a judged outcome of trying ('to listen') and also the recognition of some sound thrust directly upon one? If it can be something directly thrust upon one in experience, then how do we distinguish the two cases? Case one points to hearing as an achievement of the task of listening (one doing, not two). Case two points to hearing that is not related to any trying whatsoever. In case two we must judge that point which lies between hearing and the simple bombardment of vibrations. To suppose that simple sense data are thrust upon one as such is to overlook the fact that simple sense data (hearing, seeing) are really outcomes of discriminations of much prior experience and inquiry. Many judgments have been made in prior experience to abstract from the undifferentiated flux of experience, a recognition of 'hearing' or 'seeing.'

It seems to me that the criterion by which to distinguish achievements from something directly given is to be found in the judgment, not of the endings in experience, but of the *relation between means and ends.*

Ryle's 'got it' verbs signify an end of a process. But there is a pun here on 'end.' The end of the process may not be the aim of the process. Seeing or hearing, like learning, may be incidental to some other intended end – hence, the necessity of analyzing achievements in terms of the means-end relation.

Ryle implicitly recognizes the means-ends relation when he discusses those achievements which come about without trying. There can be achievements due partly or wholly to luck – a clock may be repaired by a random jolt. Also, there are achievements

prefaced by no task performances. We sometimes find things without searching, secure appointments without applying and arrive at true conclusions without having weighed the evidence. These are achievements, true enough. While they seem independent of trying, they are not independent of relation to the means used in arriving at the achievement. Some process was involved, and to judge it lucky, or effortless, or unintentional is a judgment of the means. It is looking backwards, as it were, from the achievement, as the point of judgment, to the manner of getting. Hence, means are judged (cognitively) as well as ends of processes.

II
Smith: "teaching" as task and "learn" as achievement

Ryle does not, in his discussion of achievements, explicitly analyze teaching and learning. Let us next look, then, at the use Professor Smith makes of the Ryle distinction in the context of teaching and learning.
Smith writes:

> *Teaching* is a task word and *learn* is the parallel achievement word. Achievement words signify occurrences or episodes. Thus one wins, arrives, or finds at a particular moment, or a cure is effected at a particular time. Nevertheless, some achievement verbs express a continued process. A boat is launched at a particular instant but it is held at the dock for inspection. On the other hand, task verbs always signify some sort of activity or extended proceedings. We can say of a task such as play, treat, or teach that it is performed skillfully, carefully, successfully, or ineffectively. We may play the game successfully or unsuccessfully, but we cannot win unsuccessfully. We may treat a patient skillfully or unskillfully, but the restoring of health is neither skillful nor unskillful. It makes sense to say that we teach unsuccessfully. But it is self-contradictory to say we learned French unsuccessfully. [5]

Let us examine this conclusion in the light of examples. First, what could it possibly mean to say that we won a game unsuccessfully? Two possibilities come to mind. We might be speaking of a Pyrrhic victory, a success gained at too great cost. Or we might be speaking of a moral victory, as in the case of an underdog who loses by a margin much less than predicted.

[5] B. Othanel Smith, "A Concept of Teaching," LANGUAGE AND CONCEPTS IN EDUCATION, ed. B. Othanel Smith and Robert H. Ennis (Chicago: Rand McNally & Co., 1961), p. 90.

Suppose we observe a stock broker. Instead of investing his money for stable income or for appreciation, he decides to go after potentially larger capital gains by trading. Over the period of a year he trades stock in the amount of, say, $100,000.00 but at the end of the year his net capital gain profit is only $500.00. Although technically he did not lose any money, would

he not be considered an unsuccessful broker? The difference between effort expended and gain achieved is so great as to make the result, although technically successful, appear ridiculous. As the saying goes, "Mountains are in labor, but a mouse issues forth." Had he invested his $100,000.00 at 5%, his year-end profit would have been 10 times greater and his effort doubtless much less. Thus, the relation between the chosen end — to make money — and the chosen means — trading — is the key to judging the behavior successful or unsuccessful.

Accordingly, in the case of a moral victory the players played the game according to the rules, comported themselves very well and perhaps hit upon a stratagem that nearly won the day. The relation between the end — to win — and the means employed — sportmanship, wit, and daring — is the key to judging the behavior as a moral victory or a successful loss. Apparently we may speak meaningfully in language that appears self-contradictory.

Suppose we take the more familiar case of educational research. Frequently the use of elaborate statistical procedures result in statistical significance but educational insignificance. As Professor McNemar wrote recently, "Of course, there are those who shout when an actually computed r of .10 reaches the .05 level but others can see the trivial basis for the shouting." [6] The incommensurability between means chosen and ends achieved works both ways. We may at times use super-sophisticated statistics to answer trivial questions, or at other times ask exceedingly important questions which cannot be adequately answered by present methods. It seems as if we are either shooting flies with a cannon, or trying to bag elephants with a pea-shooter. The magnitude and complexity of educational problems seem ridiculous in comparison with the low power of the instrument often used in educational research. But the point here is to suggest a possible set of meanings to the notion that we can win unsuccessfully.

[6]Quinn McNemar, "At Random: Sense and Nonsense," THE AMERICAN PSYCHOLOGIST, XV (May 5, 1960), 298.

One final example. What might it mean to say one learned French unsuccessfully? I suppose I am but little different from many others as graduate students who came to the French examination without any prior formal training in the language. With the help of a summer cram school, I learned enough French in four weeks to pass the examination. Save for an idle phrase or two all I learned is functionally lost except in the unlikely circumstance that the original conditions might be replicated. This all too common outcome suggests one interpretation to the phrase "learned French unsuccessfully."

Of course, in another sense I learned French; I achieved in the eyes of the judges. But *what* was achieved? Only a minimum amount of French; French was used as a *means* to pass an examination. The end was to pass the exam, not to learn French. The achievement was a judgment about passing the exam, not about the means used to pass the exam.

Logically, 'to learn French unsuccessfully' is a tautology; empirically, by reference to cases and contexts, we see that the language of tautology is inadequate to describe experience. One may find a contradiction at the level of the logic of language and discover that in an empirical-experiential context, the contradiction dissolves, for if one specifies the context, statements which are contradictory may be meaningful and compatible.

Smith begins his discussion of the distinction betwen teaching and learning by noting that Kilpatrick and Dewey say that unless the child learns the teacher has not taught. Teaching is to learning as selling is to buying. This binding together of teaching and learning after the fashion of selling and buying seems plausible enough. But, asserts Smith, the analogy will not bear inspection.

Smith agrees some features of the analogy are viable. The analogy highlights the importance of teacher responsibility and active endeavor by the pupil. Also, we can teach only if there is somebody whom we may instruct.

> Were there no buyers, there could be no sellers. Unless there were pupils, there could be no teachers. Such verbs as negotiate, sell and teach signify proceedings between two or more individuals, involving some sort of deliberation with adjustment of mutual claims and interests in expectation that some result will issue. Lacking a process of interaction there can be neither teacher nor pupil just as there can be neither seller nor buyer.[7]

But beyond this point, Smith argues, the analogy breaks down.

[7]Smith, OP. CIT., p. 88.

To say that a teacher is to teaching as a seller is to selling, while not strictly correct, does not do violence to either of these relations, according to Smith. The qualifying expression "not strictly correct" is inserted by Smith because there are several different actions which we expect of a teacher; making assignments, grading papers, showing how to do something, telling why something is the case. But, says Smith, there is little more than one sort of behavior predictable from the statement that one is a seller; namely, that he gives something in return for a consideration, usually money.

While this point is not immediately important, it must be challenged. The point, logically, has to do with the nature of relations between any pair of things. If they are defined only in the relation they stand to each other, then there are not two things, but one relation.[8] If the only thing predictable of the seller is his relation to the buyer, then we are not speaking about buyer and seller but about the relation. And, in common sense, it must be recognized that a seller does a number of different things, only one of which is the interactive relation of selling to a buyer. A teacher makes up assignments; a seller may make up an installment credit plan. A teacher grades papers; a seller examines the credit standing of the buyer. A teacher shows how to do; a seller demonstrates his products. A teacher tells why something is the case; a seller praises his product in relation to that of his competitors. (Readers may recognize this logical argument as similar to Dewey's analysis of the argument of the idealists and realists on the relation of knower to known.)

Smith says that learning is not coordinate with buying because the relation "pupil learning" is not the same as "buyer buying" apparently because a pupil may learn without a teacher to teach. But this seems no different from a buyer buying a candy bar out of a vending machine in which there is no physical presence of the seller selling. Further, a person may buy a house on credit and, while the sale was consummated at point T in time, the buying continues over years while the seller, as real estate broker, is long gone from the picture. You may argue that "buying" in this sense is more like "paying for," that the house was bought at the instant it was sold; the transaction took place and is over and done with.

This example indicates that there is not a 100% overlap

[8]John Dewey, ESSAYS IN EXPERIMENTAL LOGIC (Chicago: University of Chicago Press, 1916), p. 270.

between selling and buying. Much of the task of the seller may take place before the transaction with the buyer; there is next a point in time when the transaction takes place, both members to the transaction being occupied with the task; next, the activity or transaction has a certain upshot – the house is sold –; but, finally, the buyer continues his part of the process of buying as he pays for the house over a period of years.

Smith continues. He says the relation between buying and selling is not the same as that between teaching and learning. Perhaps Smith's argument may be presented clearly as a schema.[9]

Logical Status	Statement
Implicit tautology.	1. "I am selling X and someone is buying it from me."
Contradiction.	2. "I am selling X but no one is buying it."
Not a contradiction.	3. "I am trying to sell X and no one is buying it."
Contradiction.	4. "I am buying X from so and so but he is not selling it."
Not tautological.	5. "I am teaching X (meaning, say mathematics) to A and he is learning it."
Not a contradiction.	6. "I am teaching X to A and he is not learning it."
Not a contradiction.	7. "A is learning X but no one is teaching it to him."
Not a contradiction.	8. "I taught X to (at) A" does not include the idea that "A learned X from me."
Not tautological.	9. "I taught X to A" is not the same as "I taught X to A and he learned X."
Tautology.	10. "I am teaching X (mathematics) and he is pupiling (receiving my instruction)."
Contradiction.	11. "I am teaching X (mathematics) and he is not pupiling (not receiving my instruction)."
Contradiction.	12. "He received instruction but no one gave it to him."

[9]Smith, OP. CIT., p. 89.

The important thing to notice about the above list of propositions is that the tautologies and contradictions have a form which is different from the non-tautologies and the non-contradictions. Tautologies and contradictions are dyadic propositions. The others are not.

What Smith seems to be trying to do in this analysis is to

make teaching analytic with respect to learning, to construct a form in which "pupiling" or "receiving instruction" would be entailed by "giving instruction, teaching."

It seems to me too much to expect dyadic propositions to describe existential phenomena. Analytic propositions present a statement of relation between abstract terms. There may be parallel sets of relations between parallel analytic propositions, but I am not questioning that. The fact that the proposition "It is raining" may be true today and false tomorrow, and that its truth or falsity may change as many times as it is uttered, does not refute the fact that "It is raining" and "It is not raining" are contradictory propositions when they have the same references to date and place. But such references to date and place require triadic, not dyadic, propositions.

Let us take another look at Dewey's original statement of the equation between teaching-learning and buying-selling. Dewey writes:

> Teaching may be compared to selling commodities. No one can sell unless someone buys. We should ridicule a merchant who said that he had sold a great many goods although no one had bought any. But perhaps there are teachers who think that they have done a good day's teaching irrespective of what pupils have learned. There is the same exact equation between teaching and learning that there is between selling and buying. The only way to increase the learning of pupils is to augment the quantity and quality of real teaching. Since learning is something that the pupil has to do himself and for himself, the initiative lies with the learner. The teacher is a guide and director; he steers the boat, but the energy that propels it must come from those who are learning. The more a teacher is aware of the past experiences of students of their hopes, desires, chief interests, the better will he understand the forces at work that need to be directed and utilized for the formation of reflective habits. The number and quality of these factors vary from person to person. They cannot therefore be categorically enumerated in a book. But there are some tendencies and forces that operate in every normal individual, forces that must be appealed to and utilized if the best methods for the development of good habits of thought are to be employed.[10]

[10]John Dewey, HOW WE THINK (Revised ed.; Boston: D. C. Heath & Co., 1933), pp. 35-36, italics added.

"There is the same exact equation between teaching and learning that there is between selling and buying." This is the offending sentence. Taken negatively first, if the equation between selling and buying is grossly inexact, so then is the equation between teaching and learning.

The teaching-learning, and buying-selling statement of Dewey's may be clarified by a statement Dewey makes in *Logic: The Theory of Inquiry*. The main point of the *Logic* is to clarify the relations between the formal and the material, or the abstract and the existential.

Dewey states that there are two kinds of logical (as opposed to linguistic) propositions – dyadic and polyadic.[11] A dyadic proposition is "Justice is a virtue," a triadic proposition is "The point M is the middle point between A and B," a tetradic proposition reads "European nations owe the United States N dollars on account of war loans."

Any proposition having direct existential reference applies to conditions or circumstances, and logically any existence has to be determined with respect to date and place.

"'Man is mortal' is strictly dyadic, when it means 'If anything is human, then it is mortal,' for both terms are abstract, and the relation affirmed is of abstract nonexistential character. The proposition states a relation between conceptual contents." These propositions are "(1) independent of space-time reference, and (2) state a necessary relation between antecedent and consequent."

Now, when Dewey writes about the relation between teaching and learning he is not stating propositions about matters-of-fact. His terms have no space-time existential reference. Rather, it is a statement of necessary relation between antecedent and consequent. It is dyadic.

When Dewey attempts to specify *what* relations teachers have to learners the propositions take a different form. The teacher needs to discover something about the learner that is other and more than the relation of teaching-learning. The teacher needs to know something about the student's past experiences, not just the learning relation he sustains to the teacher. Hopes, desires and interests are important things to know about a learner, just as credit standing, upward mobility, status-seeking and political party may be important things for a seller to know about a buyer. But these additional points of contact are part

[11]John Dewey, LOGIC: THE THEORY OF INQUIRY (New York: Henry Holt & Co., 1938), pp. 312-313.

of the existential matrix out of which the selling-buying or teaching-learning relations derive.

Let me use the term "monadic" to refer to the discussion of relation qua relation. If the relation between any two pairs of things (food-eater; buyer-seller) is exclusive and exhaustive, as the relation between buyer and seller sometimes is interpreted
100 to be, then the two things collapse into the relation. There are not two things, just the "monadic" relation.

Ryle seems to collapse the trying-and-getting into one process, one relation. For Ryle, this collapsing of trying-and-getting into one doing plus the judged ending of the doing makes tasks-and-achievement monadic. Moreover, when it is recognized that the logical problem of discovery is analytic (dyadic proposition) with respect to error, and that dyadic propositions are analytic, then it can be seen that they tell us nothing about the empirical realm. For a workable language of inquiry we need polyadic propositions, propositions which have not only logical relations but references to date and place, existential references.

Hence, language which will be adequate to the description of the multiple facets of the teaching-learning phenomenon can not be monadic or dyadic; it must be polyadic.

For Smith, teaching is the process for which the true ending has to be the judgment about another process — namely, learning. The sentence should read 'I am teaching X to A and he is learned.' This sounds like the familar statement that, although it is ungrammatical, what we mean is that the teacher learns the students.

To say 'I am teaching X to A and he is not learning it.' means the process has not been judged to have reached a successful ending. The process is still going on.

Is it the case that we cannot find contradictory statements in process terms? When propositions are dyadic it is meaningful to talk about contradiction or tautology. Process terms are activities, operations, experiences requiring existential reference in terms of date and place. These require polyadic propositions.

But, according to our earlier analysis, and a criticism of Ryle, we found that there may be cognitive verbs referring to process. 'Hearing' must be discriminated from 'non-hearing', and this discrimination is a cognitive judgment. 'Learning' as a process term must be discriminated from 'non-learning' and this implies a cognitive judgment.

I think the chief difficulty is the attempt to use the ab-

stract non-existential language of tautologies and contradictions – essentially a two-valued logic – to refer to process. Since process is not a simple given, directly undergone, but a distinction *about* immediatedly had experience which distinguishes process from non-process and one process from another process, terminology here, too, must be cognitive.

Ryle claims, in so far as verbs express judged endings in experience – e.g., to arrive, repair, buy, conquer – they are not appropriately qualified by adverbs which are proper to task verbs. To say 'to repair carefully' is a way of speaking about the process, but not about the outcome of that process. One could not say 'to buy deliberately.' We can 'treat carefully' but not 'cure carefully'. We can 'scan the horizon rapidly' but not 'see rapidly.'

Hence, we might say 'he is teaching carefully' but not 'he taught carefully.' We could say 'he is teaching in vain' but not 'he taught in vain.' We could say 'he aims in vain' but not 'he hit the target in vain.' We could say 'he is learning carefully' but not 'he learned carefully.'

There is difficulty in applying Ryle's distinction to teaching and learning. Two conclusions are possible.

First, 'teaching' is the process for which 'taught' would be the judged ending, the achievement. For example, by careful teaching the teacher taught the slow pupil to do fractions. Similarly, the statement "He was a learned man" implies that he is a man of distinction, or achievement. In this view 'teach and learn' is not like 'look and see'; rather teach and learn is like walk and hum, or walk and talk, or walk and hold hands – two doings, not one. Teaching and learning are radically separated. How they are related is still a question.

A second possible conclusion is to say teaching is the task for which learning is the outcome. According to Ryle this would be one process, not two, and learn is the judged ending. Teaching and learn would be like treating and cure. Effecting a cure is not, however, something the patient does; the cure is the outcome of the process. Thus, teaching would have learn as an outcome, but the pupil apparently would not be an active participant in the learning process for learn is not an activity in this analysis but rather the judged ending to a process. Thus, it seems that if we try to specify the relationship between teaching and learning using this analysis we end with 'teaching' still independent of the pupil's effort and activity in learning.

We collapse the relation into the process and thereby fail to maintain the two things which are logically required if we are to have a relation at all.

III

Scheffler: teaching as intention and success

Scheffler takes a different tack in using Ryle's distinction. Scheffler points out that the verb 'to teach' can have two uses. In one use we say 'X teaches Y how to . . .' interpreted only in terms of intent and effort. Presumably the process is still going on and has not reached a point of achievement. But the schema 'X teaches Y how to . . .' interpreted in terms of success implies achievement or learnings.

The verb 'to teach', Scheffler writes

> . . . is not exceptional in having both "success" and "intentional" uses. Indeed, many verbs relating to action have both uses inasmuch as what is done is often described in terms of trying to reach a goal, the attainment of which defines the success of the try.[12]

Scheffler is acknowledging the means-ends relation as part of the defining characteristic of success. The three means-ends examples suggest the necessity for a means-end analysis to clarify the meaning of 'success.'[13]

Scheffler seeks a way to elucidate the difficulty of sentences which, as literal doctrines, are contradictory.

> If we take the two statements, "There can be no teaching without learning," and "There can be teaching without learning," simply as literal doctrines, we must agree that they are contradictory. Further, we must agree that the counterexample produced against the first of these statements is effective in showing it to be false. If we have an actual case before us of teaching without learning, then we must reject the doctrine that denies the existence of such cases. The counterexample does, moreover, represent a real case of teaching without learning. Here, in short, does seem to be a flat contradiction between two statements, one of which is wrong.[14]

The logic of contradiction is formed in dyadic propositions. Scheffler's way of avoiding the contradiction cited above is to resort to existential cases – actual cases. Or, as he says, "practical

[12]Israel Scheffler, THE LANGUAGE OF EDUCATION (Springfield, Illinois: C. C. Thomas Co., 1960), p. 43.

[13]SUPRA., pp. 10-12.

[14]Scheffler, OP. CIT., p. 42.

purport in actual contexts."

The practical purport of these logically contradictory statements should be examined in context. The practical emphases are not equally relevant and warranted in every context, but neither are they opposed as exclusive alternatives.

Rather, they relate to different practical aims that are perfectly compatible. The practical purport of the statement "There can be no teaching without learning" is closely related to that of the slogan "We teach children, not subjects," that is, to turn the attention of the teacher toward the child. But we have here a distinctive emphasis on the child's learning as the intended *result* of teaching, the point being to improve the effectiveness of teaching by referring to its actual as compared with its intended results.[15]

Scheffler seems to make an advance over Ryle's use of achievement verbs. Scheffler points out that some verbs refer both to process (to trying) and to achievement (outcome). Moreover, Scheffler indicates that reference to the existential context may clear up puzzles stated in only logical propositions. Scheffler avoids what seems to be a defect in Ryle's argument by simply not taking Ryle's distinction as the basis for clarification.

At the level of actual practice Scheffler's description of teaching and learning leaves us with the obvious conclusion that both teaching and learning may go on — together, separately, or as interaction. What we need are cognitive propositions which are adequate to the process we wish to describe. Peirce's logic of relatives may appropriately supply a useful start in this direction.

IV
Thirdness as a logical criterion of teaching

To distinguish between teaching and learning in some firm way seems desirable in furthering philosophical and empirical inquiries into these phenomena. Thirdness is put forward in a tentative and speculative manner, for two reasons. First, the attempt to pull Peirce's distinctions about thirdness out of the context of his philosophy may not be wholly justified, and should be regarded as tentative speculation. Any use of Peirce's fundamental ideas usually involves, and almost necessarily so, an

[15] IBID., p. 44

almost endless exposition of his philosophic structure. Such an exposition would amount to another paper, and furthermore other writers, such as Feibleman and Thompson, have contributed large scale studies of Peirce's system. A second reason for qualifying this presentation as speculative is only partially a hedge against failure; it is speculative in the sense that all working hypotheses are speculative.

Charles Peirce states the simple triadic relation as "A is a sign of B to C." In his philosophy it does not remain simple, there being at least 10 trichotomies and 66 classes of signs (reduced from Peirce's one-time estimate of over 59,000). Two examples may clarify what Peirce is trying to demonstrate.

> Analyze for instance the relation involved in "A gives B to C." Now what is giving? It does not consist [in] A's putting B away from him and C's subsequently taking B up. It is not necessary that any material transfer should take place. It consists in A's making C the possessor according to *Law*. There must be some kind of law before there can be any kind of giving — be it but the law of the strongest. But now suppose that give *did* consist merely in A's laying down the B which C subsequently picks up. That would be a degenerate form of thirdness in which the thirdness is externally appended. In A's putting away B, there is no thirdness. In C's taking B, there is no thirdness. But if you say that these two acts constitute a single operation by virtue of the identity of the B, you transcend the mere brute fact, you introduce a mental element.[16]

If we substitute the statement "A teaches B to C.", then teaching, as a form of thirdness, would not consist in A's putting something forth and C taking it up. A puts a book on a table; C takes it up; A writes a word on the board ("trieb"), C writes it down on a piece of paper; A says Kennedy will make a great president; C repeats the statement. In this dyadic relation, there is no thirdness. But when you say that these acts constitute a single operation by virtue of the identity of the B, you introduce thirdness or mediation — what Peirce calls a mental element.

Thus a criterion arises for specifying a necessary condition for teaching: *if there is no thirdness, there is no teaching.* What

[16]Charles S. Peirce, VALUES IN A UNIVERSE OF CHANCE, ed. P. P. Wiener (Garden City, N. Y.: Doubleday Anchor Books, 1958), p. 388.
On pages 389-390 Peirce makes clear that he is not trying to talk psychology: "What is the essential difference between a sign that is communicated to a mind, and one that is not so communicated? If the question were simply what we DO mean by a sign, it might soon be resolved. But that is not the point. We are in the situation of a zoologist who wants to know what ought to be the meaning of 'fish' in order to make fishes one of the great classes of vertebrates."

is thirdness? Peirce writes:

. . . Thirdness is the triadic relation existing between a sign, its object, and the interpreting thought, itself a sign, considered as constituting the mode of being of a sign. A sign mediates between the *interpretant* sign and its object. [17]

This criterion may be applied ot the so-called "teaching machines." The machine is programmed; this programming is like A putting B forth; the student works through the program; this working through is like C taking B up. Where is the thirdness? Unless there is mediation to the point of recognizing that the B was similar in both cases, there is no thirdness.

Of course, the psychologist will assert that there is a law operating — the law of effect, and therefore, being this law, there is mediation, or thirdness. But does the law pertain to A teaches B to C? Apparently this is not the case. Rather the relation is C learns B from X, the machine or the program. Is the program the student learns the same B the teacher intends? Yes, but only if the teacher intends for the student to learn by rote. If the teacher explains to the student that the B he intends to teach is to be learned by "rote learning", and the student identifies the program-learning as rote learning, then we move to a thirdness level, and to teaching.

Scheffler seems to imply necessity for a thirdness relation in his analysis of the standard example of teaching. Scheffler writes that,

. . . if we are to decide whether or not Jones is engaged in teaching activity during a specified interval, we can neither rely merely on one momentary observation, nor can we rely merely on observations of Jones' movements during the interval in question. Rather, in the light of information that normally goes beyond the interval in question, we have to see whether what Jones is doing is aimed at getting someone to learn something, whether it is not unreasonably thought to be likely to achieve the learning aimed at, and whether it falls within the restrictions of manner peculiar to teaching as ordinarily understood — in particular, whether acknowledgment of the alleged pupil's judgment is made, whether, e.g. the pupil is not systematically precluded from asking, 'How?' 'Why?' or 'On what grounds?' [18]

Thirdness may be seen in this quotation. The teacher puts something forth; the teacher does so in a way which acknowledges the alleged pupil's judgment in "asking 'How?' 'Why?' or 'On what grounds?'" While this conception of teaching seems

[17] IBID., p. 389.
[18] Scheffler, OP. CIT., p. 68.

cryptic as presented here, the necessary elements of thirdness are implied in that signs, objects and interpreting thoughts are necessary for such a relation to be established.

Using the machines as an example to clarify the point, most teaching machines systematically preclude the pupil from asking why, how and on what grounds. They present only a dyadic relation.

Machines using the scrambled book technique are closer than others to achieving a thirdness relation in teaching and learning.[19] These machines seem to incorporate a provision for explaining to the student why and how he made a mistake. They provide reasons why such a mistake is likely under the circumstances and acknowledge "clever errors." They explain what piece of learning is missing, how that learning may be sought ("turn to p. 94") and how the missing piece of information will help the student to overcome his mistake.

Some may object that the thirdness criterion begs the whole issue. It may be that the most important distinctions are to be found in neither teaching nor learning. The most important distinctions may lie in specifications of *what* is taught and what is learned. (The B element of the paradigm.)

Such phrases as "learning experiences," "organizing centers for learning," "learning laboratories" suggest strongly a context, an environment. The authors of such phrases apparently intend to de-emphasize the image of the teacher didactically pounding the learner with bits of content. They seek out an action arena — the play's the thing. The play of the learner over things and events, the play meaning the interplay of actors, and the play meaning the content written (as subject matter). This action arena might contain: a standardized comprehensive examination (to be taken whenever the learner thinks he is ready for it), a well-selected body of curricular materials, readings, films, records, provision for direct experiences, the option of coming to class or not, a team of teachers any one of which may at any time take responsibility for some part of the discussion. Thus is created a diffuseness in the image of "teacher" and the action of "teaching." "Who is the agent when" (teacher teaching) becomes much less important than the action arena, the occasion or situation for learning experiences. The deliberate and deliberated manipulation of the environmental setting through various

[19]Norman A. Crowder, "Automatic Tutoring by Means of Intrinsic Programming," AUTOMATIC TEACHING, ed. Eugene Galanter (New York: John Wiley & Sons Inc., 1959).

institutionalized devices becomes the "teacher teaching."

Likewise, with learning, "who is patient when" is made diffuse. The learning of one student, when observed by other students in the group, may generalize to the other learners. These other learners learn the same thing, but not in the same way as the student who learns it first. He, in effect, by becoming a "good" learner, "teaches" the other students in the process of his own learning. Such "teaching" is not deliberate.

We need not call all that contributes to learning "teaching." Students live in a social milieu of "learning." There are plays, films, social activities, competitions of various sorts (sporting and not so sporting), and the much belabored and idolized "bull sessions." Self-reports of students give us evidence that the environmental setting produces learning. We need not suppose that there happened to be either deliberate or incidental "teaching" ubiquitously present in all such occasions.

By the same argument, moreover, we need not suppose that the typical picture of Professor X lecturing to students in a classroom constitutes teaching. He may be merely submitting ideas, he may be urging the acceptance of ideas without debate. He may be teaching, putting forth an argument in such a way that it results in contemplation — the reasonable connection of one thought in some careful way to other thoughts.

What this means, it would appear, is that one should not confuse the context for teaching with the activity of teaching or the content taught. If there is a one-to-one relation between teaching and learning, it has not been found. The relations are multiple; the context contributes something, the individuality of the teacher contributes something, the students contribute something, and all these things may be variables, if not unknown factors, in some very complex phenomena.

Teaching may be construed as argument (philosophic). Following Peirce we find that argument may be related to firstness, secondness, and thirdness. As firstness, an argument may be submitted only to its interpretant, as something the reasonableness of which will be acknowledged. Firstness is the mode of being of that which is such as it is, positively and without reference to anything else. The teacher puts something forth; it is submitted *as is*. It is a quality, or a qualitative experience, a peculiar positive possibility regardless of anything else. Its impact on the student is a mere appearance, brute is-ness. It is an unanalyzed, total impression made by any complexity which is not thought of as actual fact but simply as a

quality.[20] This is monadic.

Secondness as argument, is urged upon the interpretant by an act of insistence. There is action on the part of the teacher, but not necessarily reaction from the pupil. The teacher's action is determinate and fixed for the student. But the student's assent or intellectual acceptance of things taught is "indeterminate" for the teacher. That is, as Peirce writes, "indeterminancy belongs only to ideas; the existent is determinate in every respect."[21] The student has determinate existence; but assent to the ideas of the argument are indeterminate, in that the teacher does not create any reaction to the action he takes in urging the argument. This is dyadic. To call this kind of teaching indoctrination suggests too strong a criticism of dyadic relations. Indoctrination is probably most like secondness, most like insistence without waiting for reaction. But there may be other characterizations of this dyadic relation which would not necessarily be construed as indoctrination.

Thirdness, as argument, is presented to the interpretant for contemplation. It is not urged, nor merely submitted; its appeal lies in being interpretable in "thoughts or other signs of the same kind in infinite series." Such contemplation would seem to require a triadic relation — the argument presented, the acceptance or receipt of the argument (either in assent or rejection) by the interpreter.

V

Thirdness, meaning and teaching

Viewing teaching as thirdness implies comparison, combination and composition. And continuity, Peirce claims, represents thirdness almost to perfection. In bringing a first and second into relation, thirdness, like teaching, mediates between two subjects and brings about their connection. Peirce writes that any attempt to relate entities without reference to thirdness must meet with failure.

If the teacher puts something forth — an idea, a diagram, a proposition, a puzzle — the student responds to something more than the brute "putting forth." The student responds not merely to the chalk marks or to the noise patterns but to these move-

[20] Peirce, OP. CIT., pp. 383-384.
[21] IBID., p. 385.

ments as an index of something else. The student's response is transferred from the teacher's direct movements to the object (idea, thing, event) to which the teacher points. Instead of regarding the object in an ordinary way, as the student might respond to any object as a stimulus, the student responds in a way which is a function of the teacher's *relationship,* actual and potential, to the thing. The characteristic of the student's response to the teacher's putting forth is that the student responds to the thing from the standpoint of the teacher teaching. He perceives it as it may function in the teacher's (and other students') experience, not just ego-centrically. Similarly, from the teacher's standpoint, the teacher has a conception about the thing not only in its direct relationship to himself, but as a thing capable of being grasped and handled by the student. He sees the thing as it may function in the student's experience.

This property of behavior in which something is made common in at least two different centers of behavior is the heart of communication which has meaning.[22] Put another way, meaning is the distinctive quality of behavior in relation to things such that response to another's act involves response to the thing as entering into the other's behavior. When this is achieved upon both sides, the event has a shared meaning. It is in this sense that we see how thirdness accounts for meaning. And it is also here that we can see how thirdness, in accounting for meaning, helps us to account for much that needs to be subsumed under a concept of teaching.

One of the chief purposes of teaching is to find, develop and test meanings. When a teacher views teaching in the light of the concepts of meaning, he may start in the middle — or muddle — of things. Meanings are vague, precise, ambiguous, clear, abstract, concrete, universal, particular, speculative, verified, consummatory, instrumental, symbolic, immediate, generated, given, logical, psychosocial, empirical. The list could be extended. This is not the place to offer a critique of the concept of meaning. Two points, however, are relevant to this discussion. The first is to specify three dimensions of meaning, calling attention briefly to their philosophical progenitors. The second is to set this brief discussion of meaning in the context of teaching.

First, a teacher thinking about teaching in terms of meaning

22John Dewey, EXPERIENCE AND NATURE (Chicago: Open Court Publishing Co., 1926), pp. 178-179.

might well begin with psychosocial meanings, meanings that are an admixture of the personal and social, meanings evident in common usage and ordinary language. Here the first-hand, direct experience of the student is important. The teacher might try to tease out the vital, lively, energetic, pulsating immediacy of experience. He might try, as the existentialist philosophers
110 try in all manner of expression — verse, plays, novels, sketches — to confront the person directly in an encounter. Peirce's firstness comes to mind — a peculiar, positive possibility regardless of anything else, a qualitative experience. Dewey's idea of pervasive and dominant qualitativeness of immediate experience and Northrup's esthetic dimension of experience perhaps refer to the same phenomena. Teaching, like philosophizing, must engage the person directly at some points or else remain the peddling of abstractions emptied of sustaining vigor. The appeal to common usage and ordinary language is an appeal through social convention to psychosocial meanings. This beginning point in teaching, as in philosophizing, is the connection of common meanings to more refined meanings. This connection leads to meaning in terms of analytic, logical meaning — contradiction, tautology, necessity.

Meaning conceived in this second sense (logic) moves from common usage and ordinary language toward more abstract concerns. Formal logic, symbolic logic — even that form of metaphysical logic characteristic of systematic philosophies which attempt to answer all of man's questions — could be considered here as treating of meaning. This conception of philosophy points a way in teaching toward the vantage point of wider perspective. One fails to understand a subject matter by seeking *only* to understand that subject matter (the fallacy of subject matter viewed as the only necessary element in teaching); some meta-level concerns are necessary. For students the value of seeking a meta-level understanding of a field of study is like the feeling of driving with your head above the traffic, or viewing the valley from the mountain peak, or figuring a balance sheet. All things considered, the larger, macroscopic point of view is possible and valuable. The learner can gain the larger view if teaching, through the precision of meaning, progressively lifts him to higher levels of abstraction.

A third dimension of meaning can be related to these two. This is meaning in its operational, denotative, empirical sense. Meaning as here referred to is meaning as viewed by the verifiability (or testability) criterion of meaning. Evidence,

warrant, and test come into play. Cases, contexts, practical procedures, operational definitions, inductive inference, and methods of inquiry so much discussed by the pragmatists and logical empiricists comprise meaning in this third dimension. Some may think of this dimension as applied logic; for others it has to do more with inquiry in its final stages. I use the term empirical meaning to refer to this third dimension of meaning.

In summary, meaning is here referred to in its psychosocial, logical and empirical dimensions. This conception of meaning does not imply an ontology. That is, no *a priori* assumptions are being made about the nature of reality as "meaning." Rather, meaning is seen as a concept which points three ways. Meaning is a midway station, perhaps a midwife to the whole and the part, the universal and particular, the large and the small, the psychosocial, analytical and the empirical. It suggests, in the context of teaching, that one can move (1) toward logical abstraction and a comprehensive view as well as (2) toward concrete experience of the open texture of psychosocial experience, and (3) toward concrete experience involving inquiry concerning matters of fact. This concept of meaning is somewhat like Plato's illustrations of the divided line and the allegory of the cave, Dewey's distinction of immediate and mediated experience, and the modern philosophers' concern with the analytic and synthetic distinction.

This framework for theorizing about teaching is only a skeleton, and perhaps and incomplete one at that. These distinctions may prove useful in the analysis of the conceptions of teaching, but the proof remains for further testing.

It seems evident that much human behavior is a quest for meaning. Some kind of meaning will be made out of any situation. Northrup writes that

> . . . the spatio-temporal social habits and ordering of people in any culture, and its objective buildings, art forms, and positive legal procedures for settling disputes are the deposit of an implicit or explicit common set of *meanings* for describing, integrating and anticipating the raw data of human experience. 23

Northrup quotes the anthropologist Bateson to the effect that

> . . . the human individual is endlessly simplifying and generalizing his

23F. S.C. Northrup, "Ethical Relativism In The Light of Recent Legal Science," AMERICAN PHILOSOPHERS AT WORK, ed. Sidney Hook (New York: Criterion Books, 1957), p. 444.

> own view of his environment; he constantly imposes . . . his own constructions and meanings; these constructions and meanings are characteristic of one culture as opposed to another.[24]

A person, in the quest for meaning, will not rest until the meaning or meanings, *for him*, become established.

Not only do humans continuously try to make sense out of experience through establishing meaning, but meanings are characterized by a quality of being extractable. To some extent they are to human affairs like the isotopes of physical science. A meaning created or developed in one situation may be extracted and "implanted" in another situation. This extraction of net meanings and their application in a different situation may be done intelligently through teaching. The relating of one meaning to another — psychosocial to logical, logical to empirical, empirical to psychosocial — requires thinking and reflection. It requires abstraction and extraction of meanings, plus the seeing of some relation.

Two dimensions of meaning are commonly discussed in philosophy. One is meaning as empirical; the other is meaning as logical. A third dimension, illustrated by Ordinary Language philosophers, makes meaning psychosocial. The dichotomous distinction of meaning as logical or empirical is inadequate, for in these discussions the psychosocial dimension is assumed inasmuch as somehow someone must "grasp" the logical or empirical meaning. The Ordinary Language philosophers have recalled meaning to its "ordinary" dimension, but perhaps they have given this dimension too much of a burden to carry. The psychosocial dimension is important, but it is neither comprehensive nor exhaustive. To some extent these different pieces of philosophizing are correctives for the others. Set in a context of teaching — viewed as the quest for meaning — they may be brought together without having to bring in all the rest of the philosophical baggage required in their more strictly philosophical contexts.

Some writers have referred to the ladder of abstraction of meanings. The ladder of abstraction of meaning is not linear nor sequential, as the image "ladder" might lead one to expect. The multiplier effect leads us to expect some progression other than by simple step-by-step progression up the "ladder." If an image is needed for the concept of the multiplier effect, perhaps pyramids will do. If we think of the apex of a pyramid as the

[24] IBID.

point at which we begin to examine meanings, then we can imagine meanings spreading out in all directions down toward the base of experience. Meanings can move into a broad base of direct experience; moving up the pyramid we see a reduction in the variability of meanings and a gain toward specificity, a convergence toward an apex. Downwardly, meanings mave into a divergence toward nuance, feeling, particularity although not specificity.

Now, place an inverted pyramid on top of the one already constructed. Here the movement is upward, through the combination and recombination of meanings, words linking with words, sentences linking with sentences, signs coupled with signs ad infinitum. Meanings may expand through abstraction and gain a kind of richness different from the one of direct experience, a richness rather of expanded vicarious experience. Critics of progressive education criticize the aimless activity programs. Although often misinformed, the critics are right in their desire for expansion of meanings through abstraction, through the imagination of literature, logic and mathematics — through theoretic experience. This kind of meaning development abhors the foot-dragging immediate experience; it seeks to soar without the constant reference to direct experience. It has a place in education.

To teach is deliberately to change the meaning of experience. Teaching need not result in immediate behavior change. However, if meaning is changed, then, should the student act, he would act as if his experience had changed. But the dimensions of change are as broad as the dimensions of meaning. Change may occur in increased logical precision of meaning, in enhanced nuance of psychosocial meaning, in increased accuracy in prediction through operational meanings.

This discussion of teaching is not a literal description of teaching seen in the actual doing. There is more to observe in actual teaching than is presently caught in this view of teaching. But, as a proposed theory of teaching, Peirce's conception of thirdness captures what seems to be a logical criterion of a conception of teaching. And meaning, as one way to make thirdness explicit, comes closer to the practical context. The three dimensions of meaning — the psychosocial, the logical, the empirical — also help to make the philosophizing of different groups of philosophers more directly relevant to central concerns of teaching and education.

IN DEFENSE OF THE COMMUNITY CRITERION: A REPLY

R. BRUCE RAUP

The first three issues of *Studies in Philosophy and Education* have provided me a rare opportunity. First, I was privileged to set down, initially in monograph form, my long-considered views on the community criterion of adequacy in normative judgment. Then, in the second issue, I could read how others, chosen by the editors for their ability in the field, would understand and critically appraise what I had ventured. Finally, in this current issue, I am granted the occasion to respond to these writers and to deal with some of the more important points at which my readers and critics have found difficulties. I am grateful for this opportunity.

I

An exercise in critical appraisal

In this interchange three persons have indicated in writing what they believe are the main points in my argument. To read these has been interesting, sobering, instructive and, upon further reflection, encouraging. The editors' résumé of the statement I made in the first issue is noteworthy for its clarity, its sense of the essentials and, on the whole, its accuracy. This is helpful, for when a writer's arguments are misconstrued by thoughtful people, there is always the possibility that this is due to the writer's lack of clarity in conception or in exposition, or both. The editors make me believe that *not all* of the misconstruing by readers may be due to the writer.

Perhaps a difference in purpose among these readers would explain why they differently grasped my meanings. The editors were only reporting, without any assignment of *critical* appraisal; the others were definitely expected to make critical appraisals. A person charged with this critical function will usually get the object of criticism into an area wherein the critic is at home and seek to hold it there where he knows that his tools can be most effective. The critic may thus, at times,

strangely qualify the object to be criticised. This may be in part inevitable. In any case, I intend no lack of appreciation and respect for the critics. I will proceed by trying to make more clear some parts of my argument which have fallen into confusion, whether due to my own failure in exposition or to the preoccupations of the critics.

II

Professor Edel's approach

Professor Edel's statement of my argument both rewards and requires close scrutiny. It is stimulating to have insightful and schooled minds such as Edel's state or restate one's argument. I have studied every step in his statement with care and have profited from his mastery in the field. Even at the first rapid reading, however, I began to sense, vaguely at first, some differences between his orientation and my own. In time, this vague sense became more definite. My response to his statement, therefore, has grown out of my search for these differences. As I find them, they seem usually to be well below the surface and far-reaching in their import.

Early in Edel's statement, he identifies my argument as "set in a whole movement of thought," and says that, as such, it "draws on the strength and faces the problems of the social-minded pragmatic outlook that is epitomized in Dewey's conception of socialized intelligence."[1] This is on the whole correct, but it must not obscure the fact that some of the sharpest issue with my statement has been taken by those who belong within this same general outlook. I observe, also, that later Edel seems to have forgotten this identification, especially when he associates my conception of community with that of Hegelian idealism.

Edel is again correct when he says that my "criterion would thus pull us by degrees into a full study of a whole philosophy."[2] Then he takes a step difficult for me to explain. He chooses to assume that by "focusing upon the criterion itself" in my article, I had released the reader from viewing my argument as within its more general philosophical setting. This is important, for Edel's critical examination of my position seems,

[1]Abraham Edel, "Some Reflections on the Community Criterion in Judgmental Practice," STUDIES IN PHILOSOPHY AND EDUCATION, I (January, 1961), 68.
[2]IBID.

at times, to result from taking my meanings out of context, a context provided, in part, by the article itself, in part by my earlier writings, with some of which he is evidently acquainted, and by his own recognition of my general philosophical orientation. There are several essential elements in my conception of "community of persuasion" which have in this and other ways
 been confused, and which, whatever the eventual reason for the confusion, I do wish to have clear.

III
The community of persuation must be free

Not only Edel, but several others, have interpreted my conception of community as wobbling between being unqualifiedly neutral and qualified as "free." This may be due to irregularities in my own statements. I have, it is true, not always repeated the full expression "free community of persuasion." I have sometimes dropped the word "free" and depended upon earlier emphasis and the context to assure this meaning. I wish to insist now that the meaning of "free" is *always* intended when the expression is used. In our book, to which Edel refers,[3] the terms "free and uncoerced" community are emphasized. In the article being studied, there are parts very difficult to interpret other than as meaning "free," even when I do not always use the term. But I am taking this occasion to make clear to readers that the concept of freedom is always essential in my meaning when I point to the "community criterion."

As a criterion the community of persuasion would not really need the addition of the word "free," for in the degree that the persuasions of people are not free, there is less real community. There would be unthought or coerced conformity. The term "free" is useful only in calling this to attention and to forestall the tendency to gravitate to the idea of neutrality or of mere conformity. This meaning is implicit, though perhaps not obvious, in the paragraphs of my article that are devoted to the *dynamic* character of the criterion.

Edel is concerned also that the criterion might seem to exclude from emphasis the role and importance of differences among individuals' values and thus rob both the individual and

[3]R. Bruce Raup, George E. Axtelle, Kenneth D. Benne, B. Othanel Smith, THE DISCIPLINE OF PRACTICAL INTELLIGENCE (New York: Harper and Brothers, 1950).

the community of the advantages that go with the cultivation of such differences. This *would,* indeed, be unfortunate, but the criterion has never been intended nor, I believe, presented in a way to justify this interpretation. My article and other statements I have made publicly on the subject will, I trust, show this to be the case.

Thus far the difficulties cited have been important but are due largely, perhaps, to misstatement and to misunderstandings which might readily be corrected. I have chosen these partly as samples of Edel's tendency to interpret my statements out of context. 117

On a number of occasions, this tendency is coupled with the device of enumerating multiple aspects of the statements in terms which would incorporate them in other contexts. I have already referred to this in the case of his mention of Hegelian idealism. Other instances would include his implicit association of my use of "persuasion" with Madison Avenue tactics. He asks whom the lone mathematician is "trying to persuade." This misunderstands my *whole* argument and misconceives the meaning with which I have used this particular term. This may also point to a real difference in more basic outlook, which will be taken up later. The latter might account for much of the lack of clarity with which we find the discussion moving.

IV
The question of epistemological assumptions

Edel speaks disparagingly of my apparent dip into epistemological assumptions. In emphasizing the free community of persuasion as "apparently men's only basis of assurance in their judgments," I have not at all presumed to enter upon treatment of the multiple theories of how men know, of what constitutes "truth," of what lies beyond that which we think we know. I have rather made what I believe is an empirical observation and proposed that it is worthy of criterial generalization, namely that men *establish* their findings and *confirm* them only through the free common persuasion of those who experience them. Findings have currency as dependable only when freely experiencing and reflecting persons find them so. Tautological though this may sound, I believe it locates the only medium through which anything proposed as dependable knowledge or as settled principle can possibly be warranted as such. Again, this does

not presume to fathom the depths of people's experience of being convinced, or of coming to hold a generalization as confirmed. I merely observe that out of these depths, and involving what is in them, do come reliable common persuasions articulated and represented in statements and other manifestations of belief and principle.

An individual or a group may have hunches and give expression to beliefs, factual or normative, and venture to propose them to an ever more inclusive community. They may feel convinced, as individuals or groups, but eventual confirmation must wait upon the free common commitment of people who reflectively experience what is proposed.

One of the points at which I think Edel's views may significantly differ from mine is in my very close association, if not identification, of all thinking, reasoning, concluding, and of all confirmation of findings, with the operations of dynamic, socialized symbols, and with communication in its deepest human sense. If we differ on this, I would respect and listen carefully to his views. I am fully aware that in presenting my whole argument I am assuming this more basic view. I have in this been much influenced by Mead, and without essential difference from him otherwise, am putting greater emphasis than Mead did upon the implicit role of the socially common, as community of persuasion, within our understanding of both the process and product of thinking and especially upon its inherent role in confirming judgments. I believe this is crucial. Where Edel seems to dissociate the common persuasion from a determinative role in thinking, he does not see, as I do, the *active* role of the community as represented in language and other symbolizations in thinking. From my point of view, thus, the burden of proof would be upon one who in explanation separates the confirming process from the community of persuasion. When a phenomenon can be shown to be so pervasive of all that we can call thinking and knowing, with much empirical evidence of its operation in the confirming processes, it would be strange indeed if it should not have influence in forming epistemological theories. But I am only claiming, for present purposes, that, empirically, it can be shown that, whatever the more underlying conditions of knowing may be, no settled confirmation of beliefs and findings takes place other than through community experience with these and free community persuasion of them. This is an empirical matter. It is a matter to be settled on empirical evidence. I think I am justified, in view of the deep

community involvement of all thinking, when I venture that one who differs with my position should produce empirical evidence against the generalization advanced. This may, indeed, reveal one of the major issues as between the views of Edel and myself. Otherwise, I find difficulty seeing why he would claim that philosophers had long since moved decisively beyond what he assumed were my assumptions in the field of epistemology.

V

On objectivity

Edel is disturbed at the weight I give to the community persuasion as a determinant in judging. His disbelief in this connection would be largely obviated, I believe, by the recognition that thought is a form of action, that this action is a basic "given" and that, in thinking, this action is a phenomenon which does not occur save in and through the dynamics of socially established symbols.

Edel's concern with my disposition of the concept of "objectivity" belongs in this same field of issue. A findings is objective when it is objectively established. What does this mean? We always have to ask *to whom* a finding is objective. Then we ask, "Is there any person who does not see it the same way?" This question is repeated over and over to different persons. The result might, and in cases does, come to be that all are in accord. Paradoxically, they often come to hold that the object, as indicated or stated (in this case, the finding) is there for all, and therein come to hold it to be there independently of the observers. This becomes an intricate matter. But again, whatever may be the ultimate conditions of the conviction of the observers, we are dependent upon the free community of their persuasion of the finding if we are to consider it objectively established. It can happen that what *was* held to be objective may turn out not to have been so. For my position, thus, objectivity is involved in the dynamics of free community of persuasion. Findings do come thus to be held as objective, and this is my reply to Edel's concern. There *is* "objectivity" and this is what it means to me. There is considerable evidence in his article that he may not agree throughout with this view, and, if so, I can thank him, in this as in other connections, for goading me into making more explicit what I do believe.

VI

Science and values

I turn now to an issue raised by Edel which probably goes most directly of all to the sustained and sustaining purpose of my study. Running through all of my public statements on
120 the subject, the most recent of which has appeared in this journal,[4] has been a mounting conviction that America's educational purposes and programs are built around an unnecessarily limited conception of the method of intelligence. In Western culture there has developed an epoch-making grasp of how factual and technological knowledge and achievement are attained. It is little wonder that the methods of attaining factual knowledge have become the dominating emphasis in our organized arrangements for the schooling of a competent citizenry. From many angles of view, one could not wish this to have been otherwise. Nor do I have any interest at all in stemming the ever-rising tide of science and technology. (Science, as prevailingly focused, is devoted to the attainment of fact-knowledge.) Many have deplored the absence of a corresponding emphasis upon, and enthusiasm for, the cultivation of social-moral intelligence, as they note the seeming run-away of the "material" culture from the more fully human and humane culture. There is a persistent cry for promoting the more inclusive liberal arts and humanities. Thus the current agitation about the relation of science and values. The need to do something in this connection is more and more acutely sensed, and scores of efforts are being made to this end. Among these efforts, all but a very few are placing the two functions in juxtaposition and pursuing them in the hope and trust that the learners will in the mysterious wisdom of developing man and culture effect some healing integration of the two. I have no word against this praiseworthy trend in current events, and urge rather its vigorous promotion.

But there is a possibility that the justification and assurance of this corrective process lies, more than is usually thought, within a closer study of the methodology of both science and the broader normative functions of intelligence. A sense of need has emerged for the rethinking of earlier statements regarding the criterion of adequacy in normative judgments. Without some more satisfactory and viable formulation of what constitutes

[4]R. Bruce Raup, "The Community Criterion in Judgmental Practice," STUDIES IN PHILOSOPHY AND EDUCATION, I (September, 1960), 4-39.

adequacy, we are without a needed point of reference in a search for principles of method. It was in line with this realization that the statement on "The Community Criterion in Judgmental Practice" was written. Edel makes some of his most searching comments on the way in which I have seen the role of the community criterion, first in the confirmation of normative judgments and, second, in getting a better working conception of the relation of fact and value from a methodological point of view. Because of limited space, I can only cite the elaboration of my views on these points in my writings and turn here rather to the form of Edel's difficulty and my reply to this.

VII

The relation of fact judgment and value judgment

Edel has a strong view of his own on this problem. He has done extensive and thorough work in relation to it in his book *Ethical Judgment,* with a sub-title *The Use of Science in Ethics.*[5] Large parts of my time and effort in preparing my response to his commentary on my statement have been spent in acquainting myself with this important work and with the book, in very similar vein, which has followed it, *Anthropology and Ethics.*[6] I recommend these to readers. On the point at issue, Edel believes that, rather than be so much concerned with any such overall criterion as the free community of persuasion, it is better to break the field of ethical norms into multiple parts corresponding to the multiple university disciplines – psychology, anthropology, social sciences, biology, and history, and to search in and through their respective subject-matters and disciplines for "determinate" principles. Thus, through the sciences he would establish these cores of knowledge and with these as dependable elements and working through methods of historical and philosophical criticism, shape more dependable moral directives. If Edel should find this statement too bare and oversimplified, I would understand his dismay. It does, however, indicate with essential accuracy, I believe, his proposed way of resolving the bifurcation that has come about between scientific and value judgments.

[5]Abraham Edel, ETHICAL JUDGMENT: THE USE OF SCIENCE IN ETHICS (Glencoe, Illinois: The Free Press, 1955).

[6]Abraham Edel, and May Edel, ANTHROPOLOGY AND ETHICS (Springfield, Illinois: Charles C. Thomas, 1959).

Edel is deeply appreciative of the predicament we are in due to the separation of these two major functions, but he argues, in a way difficult for me to follow, that the logical separation of fact and value has been over-stressed and that by a more thorough analysis of the two functions the differences between the two types of model will tend toward a minimum of

significance. He presents such an analysis, trusting, as I understand him, that, if and as it is pursued further, the logical separation between the two will lose most of its claim upon our attention and effort.

Edel thus confronts directly a major issue with which my writing has been concerned, and if I find his mode of resolution somewhat short of convincing this may well be less important than just the fact that he is centered on the issue and throwing light on it in significant ways.

VIII

"Formal" aspects of method

Edel's major difference from my view in this connection is seen in his seeming rejection of the idea of such dimensions in method as are represented by my criterion. Upon closer analysis, I think this turns out to be not so much a rejection of the idea in general but rather a preference for his over mine. He does not use the term "formal"; I introduce it now in the effort to state effectively the nature of the difficulty raised. Edel notes my rejection of any one chosen normative principle as *the* criterion of judgmental adequacy and my insistence rather upon "the more basic urge *toward* community persuasion" — making "any immediate objective to be the realizable maximum possible of such free community within the present case to be resolved." He maintains to the contrary that the "free community of persuasion" is just another particular strand among strands of normative principle and that accordingly I am contradicting my own position by making this into an overall criterion.

There is a difference, I propose, between kinds of generalization. There is a dimension which has long been called "formal." If this, upon further examination, should turn out to be also a content generalization, as are all others, then the difference would have to be explained in terms of different kinds of content, for there *is* a difference. What is meant when we speak, for instance, of the "formal" aspects of scientific method? The answer to this question would typify my reply to Edel's difficulty.

There is a general "form" which applies in particular cases but which is not confined to any one such particular. This "form" is essential. In itself, it may be an object of study. It is normative. It implies a criterion. I am not aware of any tendency in my thinking to *separate* the criterion principle from integral involvement with relevant content. Edel's casual association of my view with historic schools of idealism is misleading. My article, "Method in Judgments of Practice,"[7] includes an expressed recognition of the integral relation of the community criterion with content, citing precisely some of the major areas of content developed later by Edel in his *Ethical Judgment.* This coincidence should give Edel pause in assuming the separation of my criterial conception from some integral involvement with content.

The "formal" kind of generalization, however, it may be expained, is a distinguishable, necessary, and inescapable function in carrying on theoretical development. Edel's own book is a clear illustration. He employs the criterion of "determinateness." This is a kind of normative generalization. As such it is a guide, a goal, involved with content. But is it a generalization of a particular content? Does it not serve as a "formal" aspect, different from other content generalizations? Is it just more general? At any rate it is ineluctably present in Edel's thinking, as it is in mine. Such a generalization does embody values, inescapably. It represents, in some measure, the moral character attending any assessment made of a special content within its scope. This is what I am assuming when I cite the community criterion in judgmental practice. I think it is in line, typically, with what Edel himself does. A further example of this is seen in his very significant discussion of "the valuational base" in ethical judgment. There too he implicitly assumes some formal criterion. Is it not unavoidable?

The issue becomes, therefore, as to whether his "formal" criterion is preferable to mine. I have already noted his "formal" pattern at work on the relation between fact and value judgments. If I understand rightly, his chief reliance for establishing determinacy is upon the scientific disciplines. When I point to the integral involvement of scientific method with great normative principles and seek thereby to show that these as established, or in process of being formed, may have a priority in

[7] R. Bruce Raup, "Method in Judgments of Practice," JOURNAL OF PHILOSOPHY, XLVI (December 8, 1949), 801-817.

methodology, and that they may have more to do with the dependability of scientific method than "scientific method" itself, he has recourse to the hen-egg predicament. This is a debatable issue in history, and I accept it only as such. But I do not so readily accept his employment of it as a broom to sweep out what is implicit in the point I have made, so that he can go on

freely with his reliance upon the appeal to the sciences, as his chief recourse for security in forming normative principles. I cite this point to illustrate the way in which this crucial issue of fact and value judgments cannot be thoroughly discussed without resorting to "formal" aspects of alternative models in methodology.

From my viewpoint, Edel's search in the sciences for determinate grounds in the formation of ethical principles is certainly defensible, as far as it goes. It is indeed necessary. But then he refers to a role played in the process by other methods, for example, the method of philosophy. This shifts the focus of the methodological problem. What principles of confirmation now are to be followed? I have pointed out that both factual and normative judgments are confirmed as such in the free community of persuasion of those who experience them reflectively. From this standpoint, the two functions can be seem as integrally related parts of something whole. I am sure that in this setting the need for establishing *normative* generalizations as such cannot be left so far out of the center of the business of achieving determinateness. Edel would have to look again to the merits of his reliance on the fact-centered sciences. And in this second look he would be involved in a difference between at least two differing aspects of a formal criterion of method, a difference which cannot be resolved by gliding over the claims of one and relentlessly pursuing the other.

IX

Mason's classification of the community criterion

Professor Mason's paper[8] is not written or presented as directly a critique of mine. It is, however, considerably conditioned by a paper he read recently in my hearing and which

[8]Robert E. Mason, "Grounds of Acceptable Theory in Education," STUDIES IN PHILOSOPHY AND EDUCATION, I (January, 1961), 44-65.

was directly a critique.[9] First, I am grateful to Mason for his historical survey of the reasoning men have done on the nature and role of over-arching criteria in human intelligence. This has been much needed, and the high quality of Mason's treatment of it is inspiring.

There are two points at which, for present purposes, I would raise questions. First, I believe he classifies my writings with the Utopian emphases. Brevity makes it necessary to say, all too abruptly, that I think this is misleading. He might defend his usage historically and otherwise, but he cannot remove from the term Utopian the prevalent connotation of "nice but impractical," or not having a viable relationship between means and ends. In this connection I refer to the discussion of the "formal" generalizations above. If the generalization "community of persuasion" as a criterion is Utopian, then so also are the formal aspects of scientific method. I believe that pressing for greater adequacy in these "formal" aspects of method is about the most practical thing we can do today.

The other part of Mason's argument which I would challenge is his seemingly incurable pluralism in the field of normative formulations. I believe he is reluctant, as is Edel, to recognize and give due weight to the role of formal generalizations in method. One is impressed indeed by the variety of cultural backgrounds and the multiplicity of differing life situations that would have to be served by a common reference for judgmental adequacy. If it is these proliferating varieties that are the ground for Mason's pluralism, one can understand and sympathize. But I refer again to the persisting tendency of our minds to search for, formulate and make into a point of reference, the formal aspects of the way we think. It is not unfair to say again what I said to Edel, that Mason can't even call for a philosophy of pluralism without citing that itself as a "formal" affair. It becomes a criterion. He can't help himself. It is not facetious to keep reminding my critics that were it not for their sensitiveness to the free community criterion they would, in all probability, not be sweating out and propounding the points which they so effectively communicate. They rightly take any proposed criterion as a subject for thorough criticism, but they are in no end of self-contradiction if they seek to settle the matter by rejecting even the possibility of such a criterion.

[9]At a meeting of the Middle Atlantic States Philosophy of Education Society, November 19, 1960, at Hofstra College, Hempstead, New York.

I believe that Mason sees more clearly than does Edel the meaning of community as it is employed in the criterion that is proposed. Mason says that community persuasion is "taken to designate an aspect of method rather than an historical or sociological entity." This is very close to the meaning intended in my usage of the term. Edel cited many different meanings
 of community with the implication that the meaning I intended was, among all these, not clear. I think the context of my usage justifies Mason's interpretation, but, however that may be, I take this occasion to reiterate that the community of persuasion is a phenomenon of process. We come to have and to hold findings — beliefs, convictions, purposes, commitments freely in common.

This process is equivalent to movement toward *establishing* such findings. As such the process becomes criterial. It is a "formal" operative condition in adequating findings in human knowing and judging. I see no reason why it should not serve as a "formal" aspect of goals and as a principle in forming and confirming principles. I see good reason why it should so serve, reasons which have been both stated and implicit in the writings that are the basis of our present discussion. The quest for more inclusive "formal" generalizations is not a departure from varieties of content. As an ever present recourse, it is exercised implicitly throughout judgmental action. Other proposals for this function can and will no doubt be made, but they should be explicitly proposals for the function in question and not just multiplied generalizations in specialized contents, with the "formal" assumptions kept always under cover, unexpressed. And their proponents should show empirically that their generalizations are more adequate than mine.

The community criterion as here conceived and proposed is the only such "formal" (criterial) generalization which, within my understanding, will incorporate scientific method without jeopardizing its distinctive power, but which at the same time serves to void its exclusive, warping domination of the whole field of disciplined intelligence. But, withal, the proposal is positive. It indicates needed lines in promoting the judgmental process toward adequacy in the broader normative dimensions of intelligence.

I am indebted to these critics much more than my often defensive frame of mind may have permitted me to say. I would like to include with them those also who expressed themselves so effectively in the MASPES meeting in New York in November. The interchange has been generous and helpfully provocative.

THE UNACCEPTABILITY OF PROFESSOR MASON'S GROUNDS OF ACCEPTABILITY

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I
Two stipulations

In joining discussion on "Gounds of Acceptable Theory in Education"[1] I wish to make two preliminary stipulations.

Professor Mason draws a distinction between the "logical adequacy" of the argument for any theory and the "acceptability" of the theory. I quite accept this distinction; it is, I think, really the same as the distinction, traditional in Thomistic philosophy, between the form and the matter of reasoning, between the "rectitude" of reasoning and the "truth" of the conclusion. I am, then, prepared to stipulate that arguments and theories must have logical adequacy but that this alone does not render them worthy of belief. The point of the discussion lies on the other side of the distinction, in the question of "acceptability" or, as I would say, of "evidence."[2]

I would further stipulate as agreed with Professor Mason that propositions should have grounds for acceptability which are not reducible simply to the fact that the propositions have been accepted.

II
Matters of strategy and history

Having made these stipulations, however, I find I can not continue to follow the line of Professor Mason's discussion. I shall have to remap the course of the discussion.

Since I hold to a very pluralistic view of knowledge (I call

[1] STUDIES IN PHILOSOPHY AND EDUCATION, Robert E. Mason, I (January, 1961). Bracketed page numbers in the text refer to pages in this issue.

[2] We can probably include in these two first stipulations, a common rejection of logical positivism and of the analysts. Whatever contribution they would make would, I think, fall on the side of "logical adequacy" and so lie outside the present discussion.

it a "rich" theory – my enemies would and do call it "eclectic" or "chaotic"), the term "theory" presents a complex ambiguity to my mind. For me, "theoretical' knowledge is a special case of "knowledge" and "theory," as used by Professor Mason is a special case of "theoretical" knowledge. I can not even dispel the former ambiguity or explain the latter special cases without
 first examining the question of "evidence" and "knowledge" from a broader point of view. If I try to join battle with Professor Mason by following his trail, I shall be forced to fight on the terrain of *his* assumptions. On that terrain I shall certainly be defeated. In laying out strategy for a different battlefield I will have to do two things simultaneously. I will have to take positive positions while at the same time repelling attacks almost automatically launched from the assumptions – the standard "experimentalist" or "scientific-philosophy" assumptions – which underlie so much of Professor Mason's paper.

I shall, therefore, discuss the question of evidence and sources of knowledge in a rather general way. But first, a few historical comments. I find Professor Mason's discussion of "traditional criteria" extremely painful, largely because it rests upon and agrees with Hans Reichenbach. There *are good* historians of philosophy, but Reichenbach! However brilliant he may have been, he was not an historian and a serious student of that subject can only describe Reichenbach's historical excursions in *The Rise of Scientific Philosophy* as grotesque caricatures of historical scholarship. This is in the "experimentalist" tradition and follows the example of John Dewey himself. Oddly enough, the "experimentalists" seem always to be saying that the scholarly study of the history of philosophy is unnecessary, and yet at the same time constantly bolstering their positions by a sweeping and standardized schematization of the history of ideas very much after the manner of the Hegelian interpretation and just as *a priori*. In fact, this kinship is almost a blood relationship; it has often seemed to me that one of the reasons why the philosophy of John Dewey and his followers is unacceptable is that they never really succeeded in purging themselves of the Hegelian rationalism which, in their conscious minds, they so bitterly condemned. I hasten to add that Professor Mason's histoical comments are better than those of his sources – but still inadequate.

Let me, then, but protest the lumping together of such a

vast stretch and breadth of history under "traditional criteria."[3] Let me just say that from the earliest times there have been "rationalists" and "apriorists" and I will gladly join — some other time — with Professor Mason in a crusade to push them into oblivion.

III
Intellectual experientialism

But there has also run through the development of philosophy, a continuous tradition of a different sort, maintaining an epistemological position which I shall designate (since all good tags have already been used up and now are unavoidably reminders of other things) as "intellectual experientialism."

In this view there lies at the base of all human knowledge (whether taken in its social or in its personal development) a personal encounter — a conscious encounter — a knowing encounter — an intellectual encounter — with a world, including a subject and object, a self and things. This is the primitive matrix of experience and continues to be the matrix of experience no matter how we extend it, in quantity or quality, no matter how we elaborate or interpret it.

Now in this view there are many ways of elaborating experience, but all human knowledge must arise from and depend upon experience. Professor Mason and his co-dogmatists believe that the only way experience can be elaborated is by the so-called "experimental method" and that this is the only method by which theories or principles can be validated in experience. Hence, knowledge — like that of metaphysics in the intellectual-experientialist sense — which is not derived by the method of experimental science — can not be validated — certainly not in experience — and *must* therefore lay claim to some dogmatic guarantee — "alleged self-evidence" or the Cartesian clarity or "private revelation" or "mystical" knowledge.

This attitude is, in a sense, a modern form and a continuation of the classic assumption on which the *Critique of Pure Reason* rests.

[3]Here is an example of the over-simplified clichés so common in experimentalist writing. "They [the positivists and linguistic philosophers] also generally objected to resorting to self-evidence to establish ethical principles. THAT IS, THEY WERE NOT METAPHYSICAL TRADITIONALISTS." (p. 51) (Emphasis added). Please, Professor Mason!

The fundamental presupposition upon which Kant's argument rests — a presupposition never itself investigated but always assumed — is that universality and necessity cannot be reached by any process that is empirical in character. By way of this initial assumption Kant arrives at the conclusion that the *a priori,* the distinguishing characteristics of which are universality and necessity, is not given in sense but is imposed by the mind; or in other less ambiguous terms, is not part of the matter of experience but constitutes its form. The matter of experience is here taken as equivalent to sensation; while sensation, in turn, is regarded as being the non-relational.

The explanation of Kant's failure either to investigate or to prove this assumption has already been indicated. Leibniz proceeds upon the assumption of its truth no less confidently than Hume, and as Kant's main task consisted in reconciling what he regarded as being the elements of truth in their opposed philosophies, he very naturally felt secure in rearing his system upon the one fundamental presupposition on which they were able to agree. It lay outside the field of controversy, and possessed for Kant, as it had possessed for Hume and for Leibniz, that authoritative and axiomatic character which an unchallenged preconception tends always to acquire. [4]

On the basis of this "authoritative and axiomatic" assumption Kant found himself forced to devise the machinery of the *a priori* to validate universal and necessary knowledge, while the positivists and sensists, on the other hand, were forced, by the same axiom, to deny any knowledge except knowledge empirical in the narrowest sense of this Greek word for experiential. The modern positivists are guided by a very similar axiom (sunk now almost to the level of a compulsion buried in the "unconscious") in relegating, by an automatic and instinctive reaction — usually accompanied by contemptuous snorts — all knowledge other than this "experimental-method" knowledge to the unverifiable and the mystical.

I am willing to risk an "et tu, Brute" and be as contemptuous (with or without snorts) of the phony self-evidence of Descartes or the "intellectus purus" of the rationalists as ever was John Dewey. If the only alternative to the "experimental method" and the "empiricism" of Professor Mason were the one he describes, I would be outflanked on both sides. But I am equally prepared to apply the shock treatment to the experimentalists in order to remove from their unconscious those assumptions which display themselves in the conscious philosophical mind as these narrow alternatives.

[4]Norman Kemp Smith, A COMMENTARY TO KANT'S "CRITIQUE OF PURE REASON" (London: The Macmillan Company, 1930), pp. XXXIII-IV.

IV
Evidence

That which properly grounds, validates, justifies any knowledge or knowledge-claim, whether it be in matters of fact, or theory, universal or particular, certitude or opinion, and so forth, I call evidence, technically "objective evidence." Since evidence is in the order of knowledge, it must be taken in, grasped by a mind. It must be understood to be *evidence.* Evidence can't be "sniffed out," it can't be "savored" or heard – it must be understood in itself and in its function as evidence.[5] Hence, evidence is always evidence, in the last analysis, to and for an individual, not in itself in some Experimentalist Platonic World of "public" evidence. There is a great deal of loose talk about the need for theory and its evidence to be "public." It often sounds as though one thought that the evidence of the scientific method could be so "objectified" that it could become independent of individual minds.[6]

No matter how controlled the experiment, no matter how reduced to objective instruments, no matter how simplified, the evidential value of an experiment is nothing until it is understood by a mind. Those who put students through classical experiments are constantly and brutally made aware of the vast difference between simply the *fact* of the experiment, the empirical report of the experiment, and its *meaning as evidence.* Most of the important experiments of modern physics, for example, are truly evidential only to very intelligent and well-trained experts and are, therefore, not reasonably "open to criticism and question by all comers at all points." (p. 45) If *this* is the definition of "public," most of the theories of modern physics are not public at all and are certainly far less public than many propositions of philosophy.[7]

[5]"But how does evidence accumulate?" asks Standen in SCIENCE IS A SACRED COW (New York: E. P. Dutton and Company, 1958) p. 119, "Does it lie around in a sort of dustpile or does it accumulate in minds, and if so, don't men have to be intelligent in order to take in the evidence?"

[6]This seems to me to be a definitely pathological variety of Platonism.

[7]"Self evidence" is not a technical expression in St. Thomas but he does speak of "PER SE NOTA" propositions, that is propositions which are known to be true as soon as understood because to understand them at all one must understand the evidence for them (an evidence derived from or found in experience, not from some A PRIORI source or the Cartesian "light of natural reason" or any other rationalistic nonsense), but, apropos of the present discussion, he divides them into two classes, those that are known to all men (because in these cases, the evidence of experience is common, simple, massive and so, readily grasped) and those that are known only to experts. He had a very clear understanding that evidence could be experiential and valid without being open to ALL "comers."

The point is that the basic value of evidence depends upon the perception of this value by a mind. A mind may be mistaken. I am not here asserting the infallibility of such acceptance. My point is that unless the evidential value is "seen," understood, grasped, accepted by an individual mind, there is no evidence. The fact that two minds, or two thousand minds accept a piece
 of evidence does not strengthen the primary intrinsic evidence itself. Belief and certitude, are therefore primarily individual affairs — though they may then become social and so also be extrinsically strengthened. Hence, I can not accept the proposition,

> . . . if the self-evident principles were, in fact, found to be as universal among men as is the five-fingered hand — that is, if self-evidence could be established *empirically* [italics added and note that this is the *narrow* meaning of the Greek word] — traditional philosophy might indeed have provided grounds upon which its theory might be found acceptable. (p. 49)

The mere acceptance, however universal, as a *fact* (like the five-fingered hand, merely empirically), could not validate self-evidence as *evidence.*[8]

V

Elaboration of experiental data

Now, to return to the basic encounter of mind and reality, of experience, the individual mind finds in this experience all sorts of data which it organizes and expresses, which it elaborates in various ways. Some of this primary data is the sort that yields matter and evidence for metaphysics but is not susceptible of the complex indirect methods of the experimental sciences. When those of us who maintain intellectual experientialism say that "metaphysics" is not dependent upon or derived from the "experimental method" we are not appealing to *a priori* or *"self-evident"* knowledge but to a larger experience than the limited amount of it that can be put through the sieve of scientific method. The whole of such a philosophy is experiential and demands verification in experience — but not the single type of "verification" apparently recognized by Professor Mason.

Nor is there an appeal to a "private revelation" or an

[8] In Dewey's terms it would remain purely empirical and have no "rational standing." See his LOGIC: THE THEORY OF INQUIRY (New York: Henry Holt and Co., 1938), p. 9.

esoteric and privileged insight.[9]

It is private in the sense that any evidence is private (see above); it is superficially private in that there is not the externally public business of instrumentation, external activities or even written symbols or drawn diagrams. It is public in exactly the same sense as any evidence is, that is, the metaphysical propositions we propose can be accepted by others only insofar as they repeat the experiential encounter and the intellectual elaboration which has brought conviction to our own minds.[10]

Once we have pointed out that there is a sense in which all evidence is personal and private, as well as a sense in which the same (formally the same) evidence can be accepted by many, it can now be added and should be added that the ease with which evidence can be communicated varies widely with subject matter, methodologies and individual people. In the simpler cases of experimental method, communication is easy. If there is an argument about which piece of wood is longer, it can be readily adjudicated by measuring, although there *are* people who cannot learn to measure and others who cannot understand the significance of measurement. An argument about man's freedom is not so easily handled and far fewer people can grasp the meaning of the argument. Yet this leaves the epistemological analysis of evidence untouched. In fact, even if the evidence could be presented to only one mind, it could still be completely valid for *that* mind. We are familiar with the tortuous fictional plots in which one man alone knows and admits some dark secret while events and persons join in an intricate conspiracy to deny what he knows. There is also the case (which does not, however, invalidate the former one) in which a deluded individual surrounds his delusion with a support of logic-proof rationalization.[11]

[9]It is interesting that Catholic theologians have made a distinction between "public" and "private" revelation (revelation here being, of course, revelation in the theological sense of direct communication from God). A prophet who claims a revelation must produce extrinsic but valid proof of a divine revelation; otherwise, it remains a private matter for him and must, according to Catholic theology, be viewed as a private revelation with no public value in the Church or for Christians.

[10]There are, of course, many cases in which we accept knowledge-conclusions although the evidence is not PUBLIC TO US. Thus, I accept the medical conclusions of my doctor and not those of my great-aunt because I have EXTRINSIC guarantees that HE does have the knowledge and the evidence for his conclusions, although I am shut out of his private world of science and really cannot distinguish scientifically between the pink pill and the purple powder.

[11]For example, the self-alleged heir to the throne of England in Chesterton's ORTHODOXY (which book, incidentally, is a fine restorative of mental health for any philosopher).

VI

Insight

I have said that all knowledge must be grounded in experience and that evidence can be discovered in experience and elaborated in various ways, not merely by an empirical method
134 of fact or an experimental method of consequences. More basic than either of these is the fundamental operation of intelligence when confronted by any experiential data and by elaboration of data, namely what I will here call intellectual insight. Intelligence can apprehend not only that certain facts are given, it can also apprehend intelligible patterns written in the data themselves, intelligibilities and necessary relationships, formal characters and patterns, etc. Where experiential data carry within themselves a necessary relation which can be intellectually grasped, the relationship need not — *de jure,* cannot be established by the method of consequential verification. Dewey has recognized a case of such insight:

> Up to this point, it may seem as if the criteria that emerge from the processes of continuous inquiry were only descriptive, and in that sense empirical. That they are empirical in one sense of that ambiguous word is undeniable. They have grown out of the experiences of actual inquiry. But they are not empirical in the sense in which "empirical" means devoid of rational standing. Through examination of the *relations* which exist between means (methods) employed and conclusions attained as their consequence, reasons are discovered why some methods succeed and other methods fail.[12]

We can then reach the criteria in an empirical way; we can find that certain methods do succeed, others do not, thus verifying the criteria by the study of consequences, by the experimental method. But now, Dewey says, we can "examine" the *relations* between these means and this end and so discover *why* these means succeed. This is precisely the discovery by insight of an intrinsic necessary relation which enables us to understand that these means succeed and why and so also to generalize the relationship. This understanding is not epistemologically dependent upon the empirical discovery of such success — and therefore, stands alone as a knowledge act that is immediate, experiential, non-empirical and non-experimental. There is no intrinsic reason why we could not have examined these means and discovered this intelligible relation independently of the experimental verification.

[12]Dewey, LOC. CIT.

The position I am defending is that there are many points within the total matrix of human intellectual-existential experience where such non-experimental but thoroughly experiential insight is possible; further, that a metaphysics can be elaborated on the basis of a grouping of such insights.[13] The range of these insights is limited, and we have devised various experimental methods to supplement our insightful intelligence and to supply indirect knowledge where direct knowledge is impossible. I agree with Dewey that such insight can validate the means – end (methods – consequences) relationship and give it rational standing. There is no other way to validate it, certainly not by a more primary, a sort of "meta," means-consequences relationship. When it is thus inserted within the integral complexity of man's intellectual experience and "examined" by insightful reflection not only is it validated but by the same token its derivative and limited character is clearly discovered.

VII

Metaphysics and "Science"

And so in a similar fashion we can discover a certain set of insights about existence which can be elaborated into a metaphysics (more immediately experiential than most of the theories of natural science); a set of insights which can be elaborated into a philosophy of man – and so forth – as well as a wide range of barely grasped purely empirical facts which can be manipulated and inter-related by various scientific methods ("experimental methods") and developed into an increasingly rich range of specialized sciences. The reason why Thomistic metaphysics and philosophy of man are independent of the "sciences" is not because "man transcends nature" (p. 48) but because the experimental method is not the sole or a completely adequate tool for the understanding of nature itself.[14] Or to put it another

[13]For a brief elaboration of this thesis, see John Russell, SCIENCE AND METAPHYSICS (New York: Sheed and Ward, 1958).

[14]"Metaphysical argument, then, evidently has certain traits in common with natural science. Both are based on experience and the facts of nature are their common property. Each is concerned with giving a rational account of experience; each, therefore, uses logical consistency and agreement with fact as criteria . . . . Natural science and metaphysics, then, are not to be distinguished in terms of some facile distinction between objective and subjective, or between verifiable and unverifiable, or between reason and emotion . . . metaphysics and science are complementary. They are both necessary to a synthetic view of the world." Edward F. Caldin, THE POWER AND LIMITS OF SCIENCE; A PHILOSOPHICAL STUDY (London: Chapman and Hall, Limited, 1949), pp. 115-117.

way, the methods which taken collectively are called the scientific method are like the "net" used by Eddington to illustrate the "selectivism" of science.[15] A great deal of the experiential data of nature and of human life is systematically left out. To recover these data we must return to a method of direct ex-
 periential insight.

VIII
Fixed principles

The pragmatists and experimentalists constantly condemn those who accept "fixed principles" or "absolute truths" or "final certitudes." In accordance with what I have said above, in the intellectual experiential view, man, both as an individual and as a member of a social culture, can make definite progress in knowledge and understanding; he can solve some problems, arrive at some definitive answers. Columbus thought Cuba was Japan but we now know definitely that they are two different islands. I am not prepared to be open-minded about this; it is an established fact. In the same way there are some facts which insight can discover. Insight, for example, can discover a margin of responsible freedom in human activity. Once you have gotten hold of the evidence for this, it is just intellectual play-acting to pretend that it is open to subsequent rejection. On some points the evidence is in.

It is, of course, equally true that there is a vast range of "theory," of opinion, hypothesis and incomplete data in all human knowledge and that, in all this, constant revision is the order of the day. In fact, the kind of "theory" which results from the "scientific" method is essentially provisional, that is, just as one can examine (a la John Dewey) the relation of this means and this end and find why it must succeed, so one can examine the method of theory elaboration typical of the constructural selective methods of science and find why such theory *per se* can not be final.

[15]Arthur Eddington, THE PHILOSOPHY OF PHYSICAL SCIENCE (New York: The Macmillan Company, 1939), pp. 16-17.

IX

Acceptable theory

I would maintain then that acceptable theory must be guaranteed by intellectually grasped evidence, that the "theories" which must be brought to bear on education are of diverse varieties, that some of them are theoretical knowledge based on intellectual-experiential insight and are definitive and essential (thus, for example, the understanding that man is a responsible agent); some of the theories are drawn from disciplines which employ derivative and indirect methods and in which "theory" is at least partially a "construct" and an "hypothesis" true only in an analogous sense and possessing various degrees of permanence and of validity.

Each man's educational "theory" (if we must speak in the singular, of "theory" and not of "theories") in fact consists in a more or less integrated congeries of theories of varying epistemological kind and value.[16] And I would argue that almost every thinker (certainly John Dewey) makes use of the kind of certitudinal intellectual insight I have described above even though his explicit epistemology excludes it.

If we are to avoid the perpetual swing back and forth between parochial and one-sided methods, we must accept the natural methodological pluralism of human knowledge. Each man, then, would use to the limit what experience and insight and knowledge he has; further, we would all work together towards generating new understanding and a greater unity of knowledge. Plato well understood how the social pursuit of understanding is to be carried on:

> For in learning these objects it is necessary to learn at the same time both what is false and what is true of the whole of existence and that through most diligent and prolonged investigation, as I said in the begin-

[16]A Catholic will maintain, of course, that theological theory is relevant to the educational process. It must be remarked that from an epistemological viewpoint theological theory is elaborated from knowledge accepted on an authority (God) which guarantees the truth of the knowledge data. In other words, the revelation which supplies the data for Catholic theology is a public revelation, attested by extrinsic guarantees. In the Catholic view the act of Faith — however supernatural it may be and however much it may need grace — is an intellectual act of knowledge, not a blind adherence to blind propositions or an emotionally charged ungrounded CREDO. An acceptance of revelation needs a reflective exposure to the evidence as well as grace. I would argue, therefore, that in the epistemological sense the Catholic act of Faith as a KNOWING act is both "private" and "public" in the sense described in this paper. No one can accept it without coming to see, personally, the truth-claim and value of the act. Generally, the whole area of Faith is rejected out-of-hand and A PRIORI by pragmatists, etc.

ning; and it is by means of the examination of each of these objects, comparing one with another — names, definitions, visions, and sense perceptions proving them by kindly proofs and employing questioning and answering that are devoid of envy — it is by such means, and hardly so, that there bursts out the light of intelligence and reason regarding each object in the mind of him who uses every effort of which mankind is capable.[17]

138 I have no utopian illusions. Prejudice, ignorance, weakness of intellect, distraction, personal interest, etc., etc., are always with us and even the most honest of men will continue to disagree. But within this pluralism we can continue to pursue knowledge and truth, and to that extent pursue also some common agreements.

In this short paper I have not been able to establish any positions; I have only made a plea that the alternative view represented by "Intellectual Experientialism" be at least considered, that it cease to be rejected, ignored and unheard, through mistaken identity.

[17]Ep. VII, 344b.

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